U.S. Integrated Ocean Observing System (IOOS)

&

GOOS Regional Alliances

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Integrated Ocean Observing System

IEOS

GEOSS

IOOS

GOOS

Source: Ocean.US

Seven IOOS Societal Goals

- Predict climate change and effects
- Mitigate natural hazards
- Improve marine operations
- Improve national security
- Reduce public health risks
- Protect ecosystems
- Sustain marine resources

IOOS
Architecture

Coastal Component

Regional Systems

- **11 Regional Associations**
  - Develop
  - Operate
  - Contribute to national backbone
- **Involve User Groups**
  - Conduct needs assessments
  - Tailored product definition
- **Incorporate**
  - Sub regional systems
  - Observations – resolution and variables

National Backbone

- **Operated by**
  - NOPP Agencies & partners
- **EEZ & Great Lakes**
- **Core Variables**
  - required by regions
- **Networks**
  - sentinel stations
  - reference stations
- **Standards/Protocols**
  - QA/QC, DMAC
  - Products

U.S. Ocean Action Plan

Interagency IOOS Involvement

"The United States is playing a lead role in bringing the international community together to develop an integrated, comprehensive, and sustained earth observing system of systems that includes a substantial ocean component, known as the Global Ocean Observing System (GOOS).

The U.S. Integrated Ocean Observing System will be a major element of GOOS."

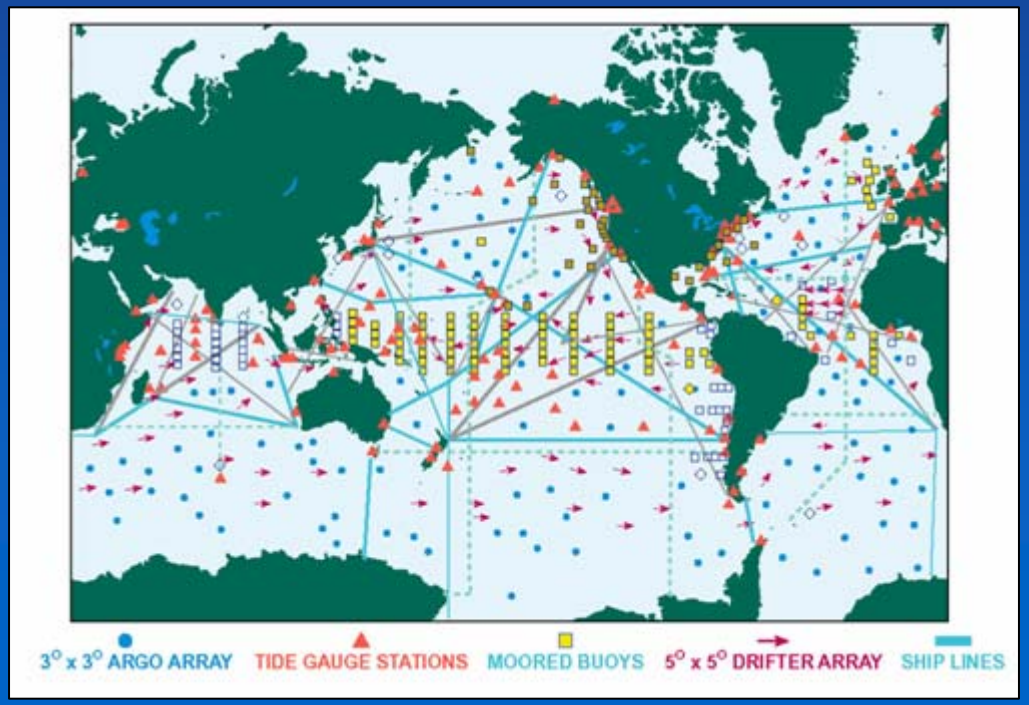
- from the President's U.S. Ocean Action Plan, December 2004

U.S. Contributions to IOOS Global Ocean-Climate Component

(NOAA - in yellow)

Satellite-based measurements:

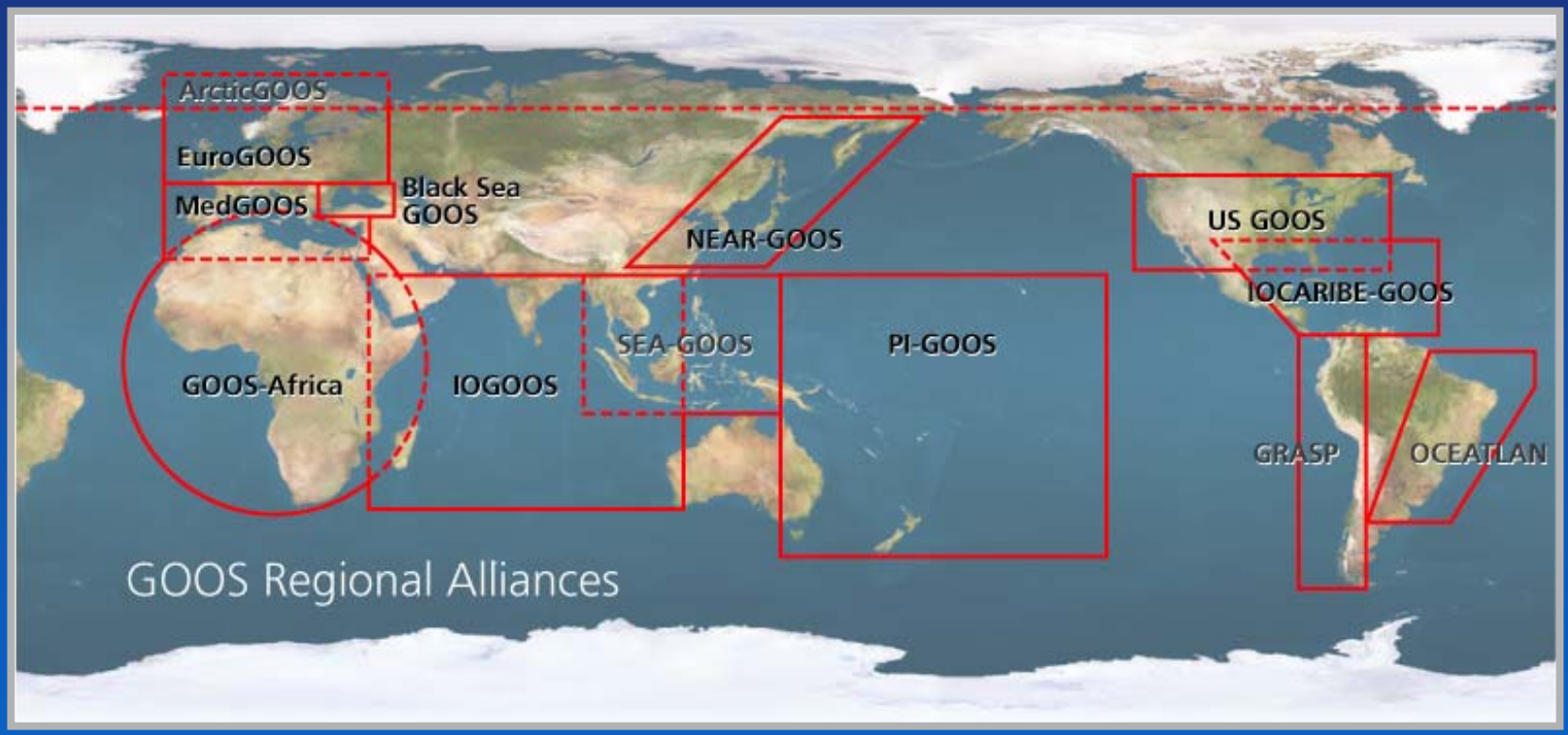
sea surface temperature, sea surface height, surface winds, ocean color and sea ice



***In situ* measurements:**

- **Argo Array**
- **Tide Gauge Stations**
- **Moored Buoys**
- **Drifter Array**
- **Ship Observations**

GOOS Regional Alliances (GRAs)



Source: Ocean.US

GRAs Priorities

- **Engage industry, academia & government agencies**
  - In the establishment of Coastal GOOS that
  - Meets their requirements for data & information
- **Form partnerships with existing regional efforts that have common interests, e.g.,**
  - Large Marine Ecosystems (LMEs) Programmes
  - Regional Seas Conventions
  - International Council for the Exploration of the Sea
- **Implement Pilot Projects to build capacity**

Source: Ocean.US

New Organizations: GOOS & GEOSS

- **U.S. IOOS is a GOOS Regional Alliance (GRA) (2007)**
- **U.S. IOOS is a Member of the *GOOS Regional Council* (2007):**
  - Address collective needs of GRAs, and represent GRAs within GOOS Community;
  - Coordinate GRAs during implementation of *Regional Ocean Observing Systems* (ROOSs);
  - Other duties and responsibilities.

New Organizations: GOOS & GEOSS

(Continued)

- **GEO's *Coastal Zone Community of Practice* (CZCP) (2007):**
  - Engage & link needs of user groups across Land-Sea Boundaries during development of the GEOSS;
  - Employ a "Regional Approach" through the GRAs;
  - Other Goals and Objectives.

New Organizations: GOOS & GEOSS

(Continued)

- ***Panel for Integrated Coastal Observations* (PICO) (2007):**
  - Provide guidance to GRAs via GOOS Scientific Steering Committee (GSSC), and GOOS Regional Council;
  - Guide development of "Coastal Modules" of GOOS across the Land-Sea Boundaries;
  - Other duties and responsibilities.

Primary Objectives of CZCP: 2007 – 2008

- **Engage GOOS Regional Alliances (GRAs) as Communities of Practice.**
- **Initiate Planning for 2008 GEO CZCP/GOOS workshop:**

"Coastal Urbanization, Development, and Coastal Inundation: Impacts on Socio-Economic Systems, Ecosystems and Living Marine Resources"

Source: Ocean.US

QUESTIONS or COMMENTS?

Global Component of the U.S. IOOS

The global component of the Integrated Ocean Observing System is comprised of twelve complementary *in situ* space-based data and assimilation subsystems.

- Global Tide Gauge Network
- Global Surface Drifting Buoy Array
- Global Ships of Opportunity Network
- Tropical Moored Buoy Network
- Argo Profiling Float Array
- Ocean Reference Stations
- Ocean Carbon Monitoring Network
- International Arctic Ocean Observing System
- Dedicated Ships Operations
- Satellites for Sea Surface Temperature, Sea Surface Height, Surface Vector Winds, Sea Ice, and Ocean Color
- Data & Assimilation Subsystems
- System Management & Product Delivery